UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAR 2 1 2008

Dr. Lee Barclay
Field Supervisor
United States Fish and Wildlife Service
466 Neal Street
Cookeville, TN 38501

SUBJECT: Transmittal of Biological Evaluation for TN Triennial Review

Dear Dr. Barclay:

The United States Environmental Protection Agency, Region 4 (EPA) would like to request the United States Fish and Wildlife Service's (USFWS) review of the enclosed biological evaluation (BE) for the referenced water quality standard revisions. The EPA is submitting this request under the informal consultation provision of 50 CFR § 402.13 and has made the determination of "Not Likely to Adversely Affect" for all aquatic and aquatic dependent species and their critical habitats within the waters of the State of Tennessee for certain provisions further detailed within the enclosed BE.

Under the Memorandum of Agreement signed by the USFWS and the EPA regarding enhanced coordination under the Clean Water Act (CWA) and Endangered Species Act, provision V.B.6. requests that EPA notify the USFWS in writing when they make "not likely to adversely affect" determinations. Additionally, the USFWS will respond in writing within 30 days of receipt of such a determination, unless extended by mutual agreement. The response date will state whether the USFWS concurs or does not concur. If the USFWS does not concur, it will provide a written explanation that includes the species and/or habitat of concern, the perceived adverse effects, supporting information and a basic rationale.

At the end of the BE there is an Optional Sign-Off page which summarizes the action, EPA's determinations, and has a place for circling your response, your signature, date, and FWS file number.

Please do not hesitate to contact me at (404) 562-9258 or powell.duncan@epa.gov for issues dealing with this letter or the biological evaluation, or Lauren Petter at (404)

562-9272 or petter.lauren@epa.gov for issues dealing with these water quality standard revisions.

Sincerely,

Duncan Powell

Duncan Powell
Endangered Species Act Coordinator

Enclosure: Biological Evaluation with attachments

Biological Evaluation
State of Tennessee
New or Revised Water Quality Standards
March 2008

Federal Action:

Clean Water Act Section 303(c)
If the Administrator, within sixty days after the date of submission of the revised or new standard, determines that such standard meets the requirements of this Act, such standard shall thereafter be the water quality standard for the applicable waters of the State…

Background:

The State of Tennessee, Department of Environment and Conservation (TDEC), Division of Water Pollution Control has adopted and submitted new and revised water quality standards to the U.S. Environmental Protection Agency, Region 4 (EPA). The TDEC submitted the revisions to the General Water Quality Criteria and Use Classifications for Surface Waters rules adopted October 24, 2006, to EPA for review, by letter dated July 20, 2007. In the section "Manner in Which the Action May Affect," specifics for each of the changes will be identified and addressed. Revisions are summarized here:

A. Changes within 1200-4-3-.02 General Considerations
B. Changes within 1200-4-3-.03 Criteria For Water Uses
C. Changes within 1200-4-3-.04 Definitions
D. Changes within 1200-4-3-.05 Interpretation of Criteria
E. Changes within 1200-4-3-.06 Antidegradation Statement
F. Changes within 1200-4-4 Use Classifications for Surface Waters
G. General Changes within 1200-4-3 General Water Quality Criteria

Action Area:

The action includes all the waters of the United States within the jurisdiction of the State of Tennessee. Waters of the United States means: (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish could be taken and sold in interstate or foreign commerce; (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition; (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial sea; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in

paragraphs (a) through (f) of this definition. [40 CFR § 122.2 *Waters of the United States* or *waters of the* U.S.]

Federally Listed Species and Critical Habitats:

Attachment A includes all species and critical habitats in the state and is considered the default listing of federally listed species and critical habitats for "may effect" determinations. When applicable, specific species and/or habitats will be identified within individual comments.

Manner in Which the Action May Affect:

Each new or revised standard will be discussed individually. If there is a "may affect" determination made for that new or revised standard, then each Federally listed species or critical habitat that may be affected will be discussed. In those instances, the revisions will be reviewed to see the manner in which the action may affect Federally listed species. When the effect has either a beneficial or insignificant effect then the resulting determination is Not Likely to Adversely Affect (NLTAA). Adverse effects would lead to a determination of Likely to Adversely Affect (LTAA). The remainder of the determinations are no effect because the species would not be found in water body(ies) affected by the new or revised standard or the revision has no direct relationship to species. Additionally, some revisions were listed as no discretion because of the revision's applicability to human health criteria.

For each individual change the new or revised standard will be quoted, species or critical habitat affected will be listed, if different from the default, and a rationale supporting how the species or critical habitat will be affected will be provided.

The State made several editorial changes (i.e., organizational, clarification of text, addition of historical information) to the standards that resulted from one or more items being added or eliminated from the previous standards. The editorial changes themselves were considered to have no effect on Federally listed species and their critical habitat. For certain provisions that were revised, deleted provisions are shown in strike-out and added provisions are shown underlined.

A. Changes within 1200-4-3-.02 General Considerations

1. 1200-4-3-.02(3) and 1200-4-3-.02(5) were revised to state:

> 1200-4-3-.02(3)
> The rigid application of uniform water quality is not desirable or reasonable because of the varying uses of such waters. The assimilative capacity of a stream for sewage and waste varies depending upon various factors and including the following: volume of flow, depth of channel, the presence of falls or rapids, rate of flow, temperature, natural characteristics, and the nature of the stream. ~~Also, the relative importance assigned to each use will differ for different waters and sections of waters.~~

1200-4-3-.02(5)
Since all Waters of the State are classified for more than one use, the most stringent criteria will be applicable. In cases where criteria for protection of more than one use apply at different stream flows (e.g., aquatic life versus recreation), the most protective ~~stringent criteria~~ will also be applicable.

No Effect: The replacement of the deleted language above clarifies the intent of the state that where multiple designated uses and their respective criteria apply it is the most protective criterion that will be used and thus will not have an effect on Federally listed species or their critical habitat.

2. 1200-4-3-.02(6) was revised to state:

Waters identified as wet weather conveyances according to the definition found in 1200-4-3-.04 (4), shall be protective of humans and wildlife that may come in contact with them and shall not ~~degrade or~~ adversely affect the quality of downstream waters. Applicable water quality standards will be maintained downstream of wet weather conveyances.

No Effect: The meaning of degrade has certain connotations in Tennessee's water quality regulations. The new and revised definitions within section 1200-4-3-.04 provide certain meanings for degradation and *de minimis* degradation. By providing that downstream waters shall not be "adversely affect[ed]," the concept of degradation to waters is handled outside of this provision and in accordance with the antidegradation procedures found at 1200-4-3-.06. Therefore, this revision will have no effect on Federally listed species or their critical habitat. A discussion on the revisions to the definitions themselves will be covered in more detail later in this document.

3. 1200-4-3-.02(9) was revised to state:

(9) Site-specific criteria studies may be conducted on any appropriate fish and aquatic life criteria.

a. Site-specific criteria studies based on a Water Effects Ratio (WER) calculated from the documented toxicity of a parameter in the stream in which it will be introduced may ~~When the Division develops or approves site-specific criteria for any substances for which generally applicable criteria have been adopted, the site-specific criteria will~~ supersede the adopted criteria at ~~that location~~ a site. The Division shall ~~can~~ approve a site-specific criteria developed by others provided that ~~an approved~~ the WER methodology [Interim Guidance on Determination and Use of Water-effect Ratios for Metals (EPA-823-B-94-001)] is used, ~~and that~~ both the study plan and results are approved by the department, and the U.S. Environmental Protection Agency has concurred with the final site specific criterion value(s).

b. Any site specific criterion based on methodologies other than the WER methodology which recalculate specific criterion, such as the Resident Species Method or the

Recalculation Method, must be adopted as a revision to Tennessee water quality standards into Chapter 1200-4-3, and following EPA approval, can be used for Clean Water Act purposes.

References on this subject include ...Interim Guidance on Determination and Use of Water-effect Ratios for Metals (EPA-823-B-94-001).

No Effect: The new language further clarifies the State's expectations for these types of site specific criteria studies consistent with EPA guidance. Such clarification was determined to have no effect on Federally listed species or their critical habitats because it is a process that identifies the ability of the State to have site specific water quality criterion to support the designated use(s). EPA Region 4 may have to consult, as appropriate, on any new or revised water quality criterion if it is adopted by the State of Tennessee using these provisions.

B. Changes within 1200-4-3-.03 Criteria for Water Uses

4. 1200-4-3-.03(3)(a) was revised to state:

Dissolved Oxygen - The dissolved oxygen shall not be less than 5.0 mg/l with the following exceptions.

1. In streams identified as trout streams, including tailwaters, dissolved oxygen shall not be less than 6 mg/L.

2. The dissolved oxygen concentration of trout waters designated as supporting a naturally reproducing population shall not be less than 8.0 mg/L. (Tributaries to trout streams or naturally reproducing trout streams should be considered to be trout streams or naturally reproducing trout streams, unless demonstrated otherwise. Additionally, all streams within the Great Smoky Mountains National Park should be considered naturally reproducing trout streams.)

3. In wadeable streams in subecoregion 73a ~~and subecoregion 71i~~, dissolved oxygen levels shall not be less than a daily average of 5 mg/L with a minimum dissolved oxygen level of 4 mg/L.

4. The dissolved oxygen level of streams in ecoregion 66 (Blue Ridge Mountains) not designated as naturally reproducing trout streams shall not be less than 7.0 mg/L.

Substantial and/or frequent variations in dissolved oxygen levels, including diurnal fluctuations, are undesirable if caused by man-induced conditions. Diurnal fluctuations shall not be substantially different than the fluctuations noted in reference streams in that region.

In lakes and reservoirs, the dissolved oxygen concentrations shall be measured at mid-depth in waters having a total depth of ten feet or less, and at a depth of five feet in waters having a total depth of greater than ten feet and shall not be less than 5.0 mg/L.

No Effect: The deletion of the reference to subecoregion 71i has no effect on Federally listed species or their critical habitats because it effectively reverts the State's effective criterion back to the currently EPA approved criterion of 5.0 mg/L. The language regarding fluctuations is only clarifying the current practice for this criterion and has no effect on Federally listed species or their critical habitats.

5. 1200-4-3-.03(3)(b) was revised to state:

> pH - The pH value shall not fluctuate more than 1.0 unit over a period of 24 hours and shall not be outside the following ranges: 6.0 – 9.0 in wadeable streams and 6.5 – 9.0 in larger rivers, lakes, reservoirs, and wetlands.

~~Subecoregion~~	~~Stream Order~~	~~pH Range~~
~~68a~~	~~1 - 3~~	~~5.5 - 8.0~~
~~68a~~	~~4 +~~	~~6.0 - 9.0~~
~~65j~~	~~1 - 2~~	~~5.5 - 8.5~~
~~65j~~	~~3 +~~	~~6.0 - 9.0~~
~~74b~~	~~All~~	~~5.5 - 8.5~~
~~All other wadeable streams~~		~~6.0 - 9.0~~
~~All other waters (larger rivers, reservoirs, wetlands)~~		~~6.5 - 9.0~~

No Effect: The change from 6.5 to 6.0 was consulted on during our review of Tennessee's previous triennial review, for those provisions which we acted on. As part of that review, EPA determined that this revision was NLTAA Federally listed species or their critical habitats. On November 9, 2004, the U.S. Fish and Wildlife Service (US FWS) concurred with this determination. However, the deletion of the references to a pH lower bound of 5.5 has no effect on Federally listed species or their critical habitats because it effectively reverts the State's effective criterion back to the EPA approved criterion of 6.0.

6. 1200-4-3-.03(3)(d) was revised to state:

> Turbidity, Total Suspended Solids, or Color - There shall be no turbidity, total suspended solids, or color in such amounts or of such character that will materially affect fish and aquatic life. In wadeable streams, suspended solid levels over time should not be substantially different than conditions found in reference streams.

NLTAA: Implementation of this beneficial provision would lead to more specific protection of Federally listed species or their critical habitats.

7. 1200-4-3-.03(3)(e) was revised to state:

> Temperature - The maximum water temperature change shall not exceed 3C° relative to an upstream control point. The temperature of the water shall not exceed 30.5°C and the maximum rate of change shall not exceed 2C° per hour. The temperature of recognized trout waters shall not exceed 20°C. There shall be no abnormal temperature changes that may affect aquatic life unless caused by natural conditions. The temperature in flowing streams shall be measured at mid-depth.

The temperature of impoundments where stratification occurs will be measured at mid-depth in the epilimnion (see definition in 1200-4-3-.04) for warm water fisheries and mid-depth in the hypolimnion (see definition in 1200-4-3-.04) for cold water fisheries. In the case of large impoundments (100 acres or larger) subject to stratification and recognized as trout waters, the temperature of the hypolimnion shall not exceed 20°C. ~~The temperature in flowing streams shall be measured at mid-depth.~~

A successful demonstration as determined by the state conducted for thermal discharge limitations under Section 316(a) of the Clean Water Act, (33 U.S.C. §1326), shall constitute compliance with this section.

No Effect: The revision in the first paragraph reflects the relocation of the same sentence from the second paragraph. The revisions which provide citations for the applicable definitions are editorial only. Specific definitions are covered in more detail later in this evaluation. Therefore, these specific revisions have no effect on Federally listed species or their critical habitats.

No Discretion: The addition of the last sentence clarifies the expectations of the State and the applicant with regards to thermal discharges consistent with section 316 of the CWA, so there is no applicability for this federal action as it relates to the consultation process.

8. 1200-4-3-.03(3)(g) was revised to incorporate different numeric values into the criteria table, update the information presented in the footnotes, and update variables associated with the hardness equations. The revisions are summarized in Attachment B. In addition to the changes made within 1200-4-3-.03(3)(g), Tennessee removed 1200-4-3-.05(9) from their regulations. That provision stated "The criteria shall be applied using the total recoverable method, unless otherwise specified, or the Division conducts or approves a chemical speciation study which determines the bioavailable or toxic fraction of a specific chemical."

Defer to National Consultation: The revised criteria reflect the updated scientific information and EPA's Clean Water Act section 304(a) recommended guidance values contained in EPA's 2006 National Recommended 304(a) Water Quality Criteria. Consultation will be deferred to national consultation as a result of the January 2001 MOA, Chapter VI.B.2.

No Effect: The language in 1200-4-3-.05(9) is no longer necessary since EPA's current section 304(a) guidance values are expressed as dissolved, and therefore, this deletion will have no effect on Federally listed species or their critical habitats.

9. 1200-4-3-.03(3)(i) was revised to state:

Iron- The waters shall not contain iron at concentrations that cause toxicity or in such amounts that interfere with habitat due to precipitation or bacteria growth.

NLTAA: The inclusion of this new narrative language further enhances Tennessee's ability to provide protection to the State's waters and thus is Not Likely to Adversely Affect Federally listed species or their critical habitats.

10. 1200-4-3-.03(3)(j) was revised to state:

Ammonia – The one-hour average concentration of total ammonia nitrogen (in mg N/L) shall not exceed the CMC (acute criterion) calculated using the following equations:

Where salmonid fish are present:

$$CMC = \frac{0.275}{1 + 10^{7.204\ pH}} + \frac{39.0}{1 + 10^{pH-7.204}}$$

Or where salmonid fish are not present:

$$CMC = \frac{0.411}{1 + 10^{7.204-pH}} + \frac{58.4}{1 + 10^{pH-7.204}}$$

The thirty-day average concentration of total ammonia nitrogen (in mg N/L) shall not exceed the CCC (chronic criterion) calculated using the following equations:

When fish early life stages are present:

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688-pH}} + \frac{2.487}{1 + 10^{pH-7.688}} \right) \bullet MIN\left(2.85, 1.45 \bullet 10^{0.028 \bullet (25-T)}\right)$$

When fish early life stages are absent:

$$CCC = -\left(\frac{0.0577}{1 + 10^{7.688-pH}} + \frac{2.487}{1 + 10^{pH-7.688}} \right) \bullet 1.45 \bullet 10^{0.028 \bullet (25-MAX(T,7))}$$

In addition, the highest four-day average within the 30-day period shall not exceed 2.5 times the CCC.

Defer to National Consultation: Defer to National Consultation pursuant to Grubbs Memorandum dated July 16, 2004. Attachment C contains a copy of this memorandum.

11. 1200-4-3-.03(3)(m) was revised to state:

Biological Integrity - The waters shall not be modified through the addition of pollutants or through physical alteration to the extent that the diversity and/or productivity of aquatic biota within the receiving waters are substantially decreased or adversely affected, except as allowed under 1200-4-3-.06.

Interpretation of this provision for any stream which (a) has at least 80% of the upstream catchment area contained within a single bioregion and (b) is of the appropriate stream order specified for the bioregion and (c) contains the habitat (riffle or rooted bank)

specified for the bioregion, may be made using the most current revision of the Department's Quality System Standard Operating Procedure for Macroinvertebrate Stream Surveys and/or other scientifically defensible methods.

Interpretation of this provision for all other wadeable streams, ~~plus large rivers,~~ lakes, and reservoirs~~, and wetlands,~~ may be made using Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers (EPA/841-B-99-002) or Lake and Reservoir Bioassessment and Biocriteria (EPA 841-B-98-007), and/or other scientifically defensible methods. Interpretation of this provision for wetlands or large rivers may be made using scientifically defensible methods. Effects to biological populations will be measured by comparisons to upstream conditions or to appropriately selected reference sites in the same bioregion if upstream conditions are determined to be degraded.

No Effect: The revisions to this provision were determined to have no effect on Federally listed species or their critical habitats because this revision clarifies previously adopted provisions, and provides details of appropriate assessment methodologies for the State's narrative.

12. 1200-4-3-.03(3)(n) was revised to state:

Habitat - The quality of ~~in~~stream habitat shall provide for the development of a diverse aquatic community that meets regionally-based biological integrity goals. Types of habitat loss include, but are not limited to: channel and substrate alterations, rock and gravel removal, stream flow changes, accumulation of silt, precipitation of metals, and removal of riparian vegetation. For wadeable streams, ~~T~~the instream habitat within each subecoregion shall be generally similar to that found at reference streams. However, streams shall not be assessed as impacted by habitat loss if it has been demonstrated that the biological integrity goal has been met.

No Effect: The revisions to this provision were determined to have no effect on Federally listed species or their critical habitats because this revision clarifies previously adopted provisions, and provides examples of types of habitat loss.

13. 1200-4-3-.03(3)(o) was added and states:

Flow – Stream or other waterbody flows shall support the fish and aquatic life criteria.

NLTAA: In the Water Quality Control Board's response to comments, Tennessee states, "...if a stream is being used for boating and a water diversion or withdrawal causes it to go dry, then the recreational use is lost. The lack of water is the impairment, even though other criteria may also be violated." The addition of this new criterion was determined to be Not Likely to Adversely Affect Federally listed species or their critical habitat because it has the potential to provide more specific protection of designated and existing use(s).

14. 1200-4-3-.03(4)(b) was revised to state:

pH - The pH value shall lie within the range of 6.0 ~~5.5~~ to 9.0 and shall not fluctuate more than 1.0 unit in this range over a period of 24 hours.

No Effect: The deletion of the references to a pH lower bound of 5.5 has no effect on Federally listed species or their critical habitats because it effectively reverts the State's effective criterion back to the currently EPA approved criterion of 6.0.

15. 1200-4-3-.03(4)(d) was revised to state:

> Total Suspended Solids, Turbidity or Color - There shall be no total suspended solids, turbidity or color in such amounts or character that will result in any objectionable appearance to the water, considering the nature and location of the water.

No Discretion: Since this modification reflects human health protections there is no applicability for this federal action as it relates to the consultation process.

16. 1200-4-3-.03(4)(f) was revised to state:

> Coliform - The concentration of the E. coli group shall not exceed 126 colony forming units per 100 ml, as a geometric mean based on a minimum of 5 samples collected from a given sampling site over a period of not more than 30 consecutive days with individual samples being collected at intervals of not less than 12 hours. For the purposes of determining the geometric mean, individual samples having an E. coli concentration of less than 1 per 100 ml shall be considered as having a concentration of 1 per 100 ml.
>
> Additionally, the concentration of the E. coli group in any individual sample taken from a lake, reservoir, State Scenic River, ~~or~~ Exceptional Tennessee Water or ONRW ~~Tier II or HI stream~~ (1200-4-3-.06) shall not exceed 487 colony forming units per 100 ml. The concentration of the E. coli group in any individual sample taken from any other waterbody shall not exceed 941 colony forming units per 100 ml.

No Discretion: While the differences between old and new antidegradation classifications are largely based on characteristics of biological integrity and presence of listed species, these criteria are based on protection of human health as an endpoint, so there is no applicability for this federal action as it relates to the consultation process.

17. 1200-4-3-.03(4)(h) now states:

> Nutrients - The waters shall not contain nutrients in concentrations that stimulate aquatic plant and/or algae growth to the extent that the public's recreational uses of the waterbody ~~stream~~ or other downstream waters are detrimentally ~~effected~~ affected. Unless demonstrated otherwise, the nutrient criteria found in 1200-4-3-.03(3)(~~i~~k) will be considered adequately protective of this use.

No Effect: The revisions to this provision reflect clarifications to the existing language, spelling corrections, and reference corrections and therefore have no effect on Federally listed species or their critical habitats.

18. 1200-4-3-.03(4)(i) now states:

> Nutrient Response Criteria for Pickwick Reservoir: those waters impounded by Pickwick Dam on the Tennessee River. The reservoir has a surface area of 43,100 acres at full pool, 9,400 acres of which are within Tennessee. Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition*, 1998): the mean of the photic-zone (See definition) composite chlorophyll *a* samples collected monthly April through September shall not exceed 18 µg/l, as measured over the deepest point, main river channel, dam forebay.

No Effect: The action area includes the segments of the lakes to which the adopted chlorophyll *a* criteria apply (potential direct effects) and all waters adjacent to the lake segments including embayments and waters immediately downstream from the lake segments (potential indirect effects). According to a March 12, 2004, BE for the adoption of Alabama's chlorophyll *a* criterion for Pickwick Lake, the species potentially found in the action area are the bald eagle, gray bat, Indiana bat, slackwater darter, spotfin chub, pink mucket pearly mussel, white warty-back pearl mussel, rough pigtoe pearly mussel, cumberlandian combshell mussel, ring pink mussel, turgid blossom pearlymussel, cracking pearlymussel, and fanshell. There will be no effect (direct) on the bald eagle, gray bat, and Indiana bat since they do not live in the lake. Although the lake is a food source for the bald eagle, gray bat, and Indiana bat, the numeric nutrient criterion was determined to have no effect (indirect) on the species. This determination was based on the expectation that the criterion will maintain nutrient loads in the reservoir sufficient to continue support of the existing feeding level. There will be no effect (direct) on the slackwater darter, spotfin chub, pink mucket pearly mussel, white warty-back pearl mussel, rough pigtoe pearly mussel, cumberlandian combshell mussel, ring pink mussel, turgid blossom pearlymussel, cracking pearlymussel, and fanshell because they are riverine species and thus, would not be found in the lake itself. There will be no effect (indirect) on the slackwater darter, spotfin chub, pink mucket pearly mussel, white warty-back pearl mussel, rough pigtoe pearly mussel, cumberlandian combshell mussel, ring pink mussel, turgid blossom pearlymussel, cracking pearlymussel, and fanshell that occur immediately downstream of the dam because the adopted criterion was established using historical/current conditions of the waters that protected and allowed propagation of the federally listed fish, shellfish, and wildlife.

Alabama set the chlorophyll *a* criterion for this lake using data and information, including historical monitoring data, which reflects full use support of fish and aquatic life. Based on email correspondence dated July 2, 2007, Tennessee concurred with Alabama's rationale for the chlorophyll *a* criterion. Concerning the Federally listed aquatic and aquatic-dependent species present within the subject lake segment, the establish criterion is not significantly different from average concentrations measured during the growing season, and the chlorophyll *a* levels associated with the criterion are not expected to result in discernable changes or shifts in the abundance of species' habitat or food items upon which they depend.

Aquatic-dependent species include the bald eagle. It relies upon the lake for feeding. The current levels of chlorophyll *a* within this lake currently support some level of feeding effort. The numeric nutrient criterion would not have any discernable effect on the food source for these species, nor would it have an effect on these species' ability to obtain food. Aquatic species

include lotic species of fish, snails, plants, and mussels. These aquatic species rely upon the nutrient condition to support their food chains and physical habitats.

Concerning the Federally listed aquatic and aquatic-dependent species present within the waters adjacent to the subject lake segment including embayments and downstream waters, the established chlorophyll *a* criterion does not have an effect on the applicable narrative criteria for these waters which require full protection of the fish and aquatic life. That is, the applicable narrative criterion and its implementation has not changed and therefore these species are provided the same level of protection afforded prior to the adoption of the chlorophyll *a* criterion.

19. 1200-4-3-.03(4)(j) was revised to incorporate updated numeric values and carcinogenic status into the criteria table. The revisions are summarized in Attachment D.

No Discretion: Since all the modifications reflect human health criteria there is no applicability for this federal action as it relates to the consultation process.

20. The last paragraph of 1200-4-3-.03(4)(l) was revised to state:

> For substances for which the public heath concern is based on toxicity, a "do not consume" advisory will be considered warranted when average levels of the substance in the edible portion of fish exceed U.S. Food and Drug Administration (FDA) Action Levels or EPA national criteria. Based on the rationale used by FDA or EPA for their levels, the Commissioner may issue precautionary advisories at levels appropriate to protect sensitive populations.

No Action: EPA did not take action on this provision under CWA section 303(c) authorities and therefore there is no consultation action necessary.

21. 1200-4-3-.03(4)(m) was added and states:

> Flow – Stream flows shall support recreational uses.

No Discretion: Since all the modifications reflect human health based protections there is no applicability for this federal action as it relates to the consultation process.

C. Changes within 1200-4-3-.04 Definitions

The definitions were reorganized as part of this rulemaking but the following only addresses individual definitions which had revisions to the language itself.

22. 1200-4-3-.04(4) was separated into a revised (3) and (4):

> (3) Degradation - The alteration of the properties of waters by the addition of pollutants or removal of habitat.

(4) *De Minimis* - Alterations other than those ~~not~~ resulting in the condition of pollution or new domestic wasterwater discharges, that represent either a small magnitude or a short duration shall be considered a *de minimis* impact and will not be considered degradation. ~~are of a temporary nature or those alterations having de minimus impact (no measurable or less than 5 percent loss of assimilative capacity) will not be considered degradation~~ for purposes of implementing the antidegradation policy. Discharges other than domestic wastewater will be considered *de minimis* if they are temporary or use less than five percent of the available assimilative capacity for the substance being discharged. Water withdrawals will be considered *de minimis* if less than five percent of the 7Q10 flow of the stream is removed (the calculations of the low flow shall take into account existing withdrawals). Habitat alterations authorized by an Aquatic Resource Alteration Permit (ARAP) are *de minimis* if the division finds that the impacts are offset by a combination of impact minimization and/or in-system mitigation.

If more than one activity has been authorized in a segment and the total of the impacts uses no more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow, they are presumed to be *de minimis*. Where total impacts use more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow they may be treated as *de minimis* provided that the division finds on a scientific basis that the additional degradation has an insignificant effect on the resource and that no single activity is allowed to consume more than five percent of the assimilative capacity, available habitat or 7Q10 low flow. ~~Degradation will not be considered de minimus if a substantial loss (more than 50 percent) of assimilative capacity has already occurred.~~

No Discretion: In coordination with the headquarters offices of the Fish and Wildlife Service and the NOAA Fisheries Service, EPA determined that it lacks relevant discretion to implement measures that would benefit listed species in connection with antidegradation policy approvals. Thus, EPA is not required under the Endangered Species Act to consult on the approval of antidegradation policies with the Fish and Wildlife Service and the NOAA Fisheries Service. This determination and the basis for this position is articulated in a memorandum dated January 27, 2005, from Geoffrey H. Grubbs, Director of EPA's Office of Science and Technology, to the Water Management Division Directors in each of EPA's Regional offices. We understand that the Services' headquarters offices have communicated to their regional and field offices this position regarding antidegradation policy approvals.

23. 1200-4-3-.04(6), (7), (9), (12), (14), and (15) were revised to state:

(6) Epilimnion – The upper layer of water in a thermally stratified lake or reservoir. This layer consists of the warmest water and has a fairly uniform (constant) temperature.

(7) Hypolimnion - The lowest layer in a thermally stratified lake or reservoir. This layer consists of colder, more dense water, has a constant temperature and no mixing occurs. The hypolimnion of a eutrophic lake is usually low or lacking in oxygen.

(9) Photic Zone - the region of water through which light penetrates and where photosynthetic organisms live.

(12) Stratification – The tendency in lakes and reservoirs for distinct layers of water to form as a result of vertical change in temperature and, therefore, in the density of water. During stratification, dissolved oxygen, nutrients, and other parameters of water chemistry do not mix well between layers, establishing chemical as well as thermal gradients.

(14) Thermocline – The middle layer in a thermally stratified lake or reservoir. In this layer there is a rapid decrease in temperature with depth. Also called the metalimnion.

(15) Wadeable streams - Streams that can be sampled using a hand held, one meter square or smaller kick net without water and materials escaping over the top of the net.

No Effect: The addition of the above definitions has no effect on Federally listed species or their critical habitats because they only clarify the State's terminology used in respective criteria.

D. Changes within 1200-4-3-.05 Interpretation of the Criteria

24. 1200-4-3-.05(2) was revised to state:

The effect of treated sewage or waste discharge on the receiving waters shall be considered beyond the mixing zone except as provided in this paragraph. ~~after they are mixed with the waters and beyond a reasonable zone of immediate effect.~~ The extent to which this is practicable depends upon local conditions and the proximity and nature of other uses of the waters. Such mixing zones (See definition) shall be restricted in area and length and shall not (i) prevent the free passage of fish or cause aquatic life mortality in the receiving waters; (ii) contain materials in concentrations that exceed ~~recognized~~ acute criteria ~~toxicity levels;~~ beyond the zone immediately surrounding the outfall; ~~for biota representative of the aquatic community in the receiving waters;~~ (iii) result in offensive conditions; (iv) produce undesirable aquatic life or result in dominance of a nuisance species; (v) endanger the public health or welfare; or (vi) adversely affect the reasonable and necessary uses of the area; (vii) create a condition of chronic toxicity beyond the edge of the mixing zone; ~~and~~ (viii) adversely affect nursery and spawning areas; or (ix) adversely affect species with special state or federal status.

NLTAA: The State's clarification and addition of the waters intended for coverage, particularly as it relates to species with "special state or federal status," will provide additional protection of Federally listed species or their critical habitats and therefore were determined to be Not Likely to Adversely Affect.

25. 1200-4-3-.05(4) was revised to state:

Water quality criteria for ~~The~~ fish and aquatic life and livestock watering and wildlife criteria set forth shall generally be applied on the basis of the following stream flows: unregulated streams - stream flows equal to or exceeding the 7-day minimum, 10-year recurrence interval; regulated streams - all flows in excess of the minimum critical flow occurring once in ten years as determined by ~~an analysis of records of operation and approved by the Commissioner of~~ the ~~Tennessee Department of Environment and~~

~~Conservation~~ division. However, criteria that are wholly or partially based on direct measurements of ambient aquatic community health, such as the nutrient, biological integrity, and habitat criteria for the fish and aquatic life use, shall support the designated use. These criteria should be considered independent of a specified minimum flow duration and recurrence. All other criteria shall be applied on the basis of stream flows equal to or exceeding the 30 day minimum ~~2~~5 year recurrence interval.

NLTAA: The State's revisions were determined to be Not Likely to Adversely Affect Federally listed species or their critical habitats because of the additional protection which can be provided by the State's position to have certain criteria apply, those which measure aquatic community health, independent of a specified minimum flow duration and recurrence and is intended to protect designated and existing uses.

26. The heading on the detection level table within 1200-4-3-.05(8) was revised to state:

REQUIRED METHOD DETECTION LEVELS [RDL] (ug/l)
(Approved EPA Methods Must Be Used)

No Effect: The State's new language was determined to have no effect on Federally listed species or their critical habitats.

E. Changes within 1200-4-3-.06 Antidegradation Statement

27. All changes with 1200-4-3-.06 were related to antidegradation and the language, as adopted on October 24, 2006, can be found at http://www.state.tn.us/sos/rules/1200/1200-04/1200-04-03.pdf.

No Discretion: In coordination with the headquarters offices of the Fish and Wildlife Service and the NOAA Fisheries Service, EPA determined that it lacks relevant discretion to implement measures that would benefit listed species in connection with antidegradation policy approvals. Thus, EPA is not required under the Endangered Species Act to consult on the approval of antidegradation policies with the Fish and Wildlife Service and the NOAA Fisheries Service. This determination and the basis for this position is articulated in a memorandum dated January 27, 2005, from Geoffrey H. Grubbs, Director of EPA's Office of Science and Technology, to the Water Management Division Directors in each of EPA's Regional offices. We understand that the Services' headquarters offices have communicated to their regional and field offices this position regarding antidegradation policy approvals.

F. Changes within 1200-4-4 Use Classifications for Surface Waters

28. Revisions to Chapter 1200-4-4 included the addition of 1200-4-4-.14 (Barren River Watershed) and its respective classifications, as well as trout/naturally reproducing trout classification modifications to the remainder of Chapter 1200-4-4. A summary of the revisions is included as Attachment E.

NLTAA: The State's clarification and addition of the waters intended for the specific protections associated with each use and/or trout classifications was determined Not Likely to Adversely Affect Federally listed species or their critical habitats.

G. General Changes within 1200-4-3 General Water Quality Criteria

29. There were numerous editorial changes. Mostly, the revisions included revised numbering/ lettering, order changes to increase readability, and additions to administrative history sections.

No Effect: These minor editorial revisions will have no effect on Federally listed species or their critical habitats.

Summary of EPA Determinations:

There is no discretion to consult on 1) revisions to 1200-4-3-.03(4)(d), 1200-4-3-.03(4)(f), 1200-4-3-.03(4)(j), and 1200-4-3-.03(4)(m) relating to protection of human health as an endpoint, 2) revisions to 1200-4-3-.03(3)(e) relating to section 316 of the Clean Water Act, and 3) revisions to 1200-4-3-.04(3), 1200-4-3-.04(4), and 1200-4-3-.06 relating to antidegradation.

No consultation action was necessary for 1200-4-3-.03(4)(l) because EPA did not take action on this provision under CWA section 303(c) authorities.

Revisions to 1200-4-3-.03(3)(g) and 1200-4-3-.03(3)(j) are being deferred to national consultation.

No Effect:

Revisions to 1200-4-3 (editorial changes), 1200-4-3-.02(3), 1200-4-3-.02(5), 1200-4-3-.02(6), 1200-4-3-.02(9), 1200-4-3-.03(3)(a), 1200-4-3-.03(3)(b), 1200-4-3-.03(3)(e) (editorial changes), 1200-4-3-.03(3)(m), 1200-4-3-.03(3)(n), 1200-4-3-.03(4)(b), 1200-4-3-.03(4)(h), 1200-4-3-.03(4)(i), 1200-4-3-.05(9), 1200-4-3-.04(6, 7, 9, 12, 14 and 15), and 1200-4-3-.05(8) are determined to be no effect because the respective revisions were editorial changes, clarifications, or implementation language.

Not Likely to Adversely Affect (NLTAA):

Revisions to 1200-4-3-.03(3)(d), 1200-4-3-.03(3)(i), 1200-4-3-.03(3)(o), 1200-4-3-.05(2), 1200-4-3-.05(4), and 1200-4-4 are determined to be NLTAA because the revisions are either beneficial or insignificant.

Duncan M Powell

Duncan M. Powell, Endangered Species Coordinator

03.21.008

Date

Optional FWS Sign-off
Circle One: Concur Concur with Suggestions Not Concur

_____

Field Office Supervisor

_____

Date

FWS File # _____

ATTACHMENT A - THREATENED AND ENDANGERED SPECIES IN TENNESSEE

(* = Species with Critical Habitats, [1-3] = Federal Register Information)

90 species as of September 1, 2006

(As viewed November 16, 2007, from the website http://www.fws.gov/cookeville/docs/ endspec /eslist2.html, which was provided in an email from Steven Alexander on November 27, 2006.)

Animals--70 species

E -- Acornshell, southern (*Epioblasma othcaloogensis*)
E -- Bat, gray (*Myotis grisescens*)
E -- Bat, Indiana (*Myotis sodalis*)
E -- Bean, Cumberland (pearlymussel)(*Villosa trabalis*)
E -- Bean (mussel), purple (*Villosa perpurpurea*) *[3]
E -- Blossom, green (pearlymussel)(*Epioblasma torulosa gubernaculum*)
E -- Blossom, tubercled (pearlymussel) (*Epioblasma torulosa torulosa*)
E -- Blossom, turgid (pearlymussel) (*Epioblasma turgidula*)
E -- Blossom, yellow (pearlymussel)(*Epioblasma florentina florentina*)
E -- Catspaw (=purple cat's paw pearlymussel) (*Epioblasma obliquata obliquata*)
T -- Chub, slender (*Erimystax (=Hybopsis) cahni*)
T -- Chub, spotfin (*Erimonax monachus*)
E -- Clubshell (*Pleurobema clava*)
E -- Combshell, Cumberlandian (*Epioblasma brevidens*) *[3]
E -- Clubshell, ovate (*Pleurobema perovatum*)
E -- Clubshell, southern (*Pleurobema decisum*)
E -- Combshell, upland (*Epioblasma metastriata*)
T -- Cougar, Eastern (*Felis concolor couguar*)
E -- Crayfish, Nashville (*Orconectes shoupi*)
T -- Dace, blackside (*Phoxinus cumberlandensis*)
E -- Darter, amber (*Percina antesella*) *[1]
E -- Darter, bluemask (=jewel) (*Etheostoma (Doration)* sp.)
E -- Darter, boulder (=Elk River) (*Etheostoma wapiti*)
E -- Darter, duskytail (*Etheostoma percnurum*)
T -- Darter, slackwater (*Etheostoma boschungi*)
T -- Darter, snail (*Percina tanasi*)
T -- Eagle, bald (*Haliaeetus leucocephalus*)
E -- Elktoe, Appalachian (*Alasmidonta raveneliana*)
E -- Elktoe, Cumberland (*Alasmidonta atropurpurea*) *[3]
E -- Fanshell (*Cyprogenia stegaria*)
E -- Kidneyshell, triangular (*Ptychobranchus greeni*)
E -- Lampmussel, Alabama (*Lampsilis virescens*)
E -- Lilliput, pale (pearlymussel) (*Toxolasma cylindrellus*)
E -- Logperch, Conasauga (*Percina jenkinsi*) *[1]
E -- Madtom, pygmy (*Noturus stanauli*)
E -- Madtom, Smoky (*Noturus baileyi*)
T -- Madtom, yellowfin (*Noturus flavipinnis*)
E -- Mapleleaf, winged (mussel) (*Quadrula fragosa*)
E -- Marstonia (snail), royal (=obese) (*Pyrgulopsis (=Marstonia) ogmorhaphe*)
T -- Moccasinshell, Alabama (*Medionidus acutissimus*)
E -- Moccasinshell, Coosa (*Medionidus parvulus*)
E -- Monkeyface, Appalachian (pearlymussel)(*Quadrula sparsa*)
E -- Monkeyface, Cumberland (pearlymussel)(*Quadrula intermedia*)
E -- Mucket, pink (pearlymussel) (*Lampsilis abrupta*)
E -- Mussel, oyster (*Epioblasma capsaeformis*) *[3]
E -- Pearlymussel, birdwing (*Conradilla caelata*)
E -- Pearlymussel, cracking (*Hemistena lata*)

E -- Pearlymussel, dromedary (*Dromus dromas*)
E -- Pearlymussel, littlewing (*Pegias fabula*)
E -- Wartyback, white (pearlymussel) (*Plethobasus cicatricosus*)
E -- Pigtoe, Cumberland (=Cumberland pigtoe mussel) (*Pleurobema gibberum*)
E -- Pigtoe, finerayed (*Fusconaia cuneolus*)
E -- Pigtoe, rough (*Pleurobema plenum*)
E -- Pigtoe, shiny (*Fusconaia cor (=edgariana)*)
E -- Pigtoe, southern (*Pleurobema georgianum*)
E -- Pimpleback, orangefoot (pearlymussel) (*Plethobasus cooperianus*)
E -- Pink, ring (mussel) (*Obovaria retusa*)
T -- Pocketbook, finelined (*Lampsilis altilis*)
E -- Rabbitsfoot, rough (*Quadrula cylindrica strigillata*) *[3]
E -- Riffleshell, tan (*Epioblasma florentina walkeri*)
E -- Riversnail, Anthony's (*Athearnia anthonyi*)
T -- Shiner, blue (*Cyprinella (=Notropis) caerulea*)
E -- Shiner, palezone (*Notropis albizonatus*)
T -- Snail, painted snake coiled forest (*Anguispira picta*)
E -- Spider, spruce-fir moss (*Microhexura montivaga*)
E -- Squirrel, Carolina northern flying (*Glaucomys sabrinus coloratus*)
E -- Sturgeon, pallid (*Scaphirhynchus albus*)
E -- Tern, least (*Sterna antillarum*)
E -- Wolf, red (*Canis rufus*)
E -- Woodpecker, red-cockaded (*Picoides borealis*)

Plants--20 species
E -- American Chaffseed (*Schawalbea americana*)
T -- American hart's-tongue fern (*Asplenium scolopendrium* var. *americanum*)
T -- Blue Ridge goldenrod (*Solidago spithamaea*)
E -- Braun's rock cress (*Arabis perstellata*) *[2]
T -- Cumberland rosemary (*Conradina verticillata*)
E -- Cumberland sandwort (*Arenaria cumberlandensis*)
E -- Green pitcher-plant (*Sarracenia oreophila*)
E -- Large-flowered skullcap (*Scutellaria montana*)
E -- Leafy prairie-clover (*Dalea (=Petalostemum) foliosa*)
T -- Price's potato-bean (*Apios priceana*)
E -- Pyne's (=Guthrie's) ground-plum (*Astragalus bibullatus*)
E -- Roan Mountain bluet (*Hedyotis purpurea* var. *montana*)
E -- Rock gnome lichen (*Gymnoderma lineare*)
E -- Ruth's golden aster (*Pityopsis (=Heterotheca =Chrysopsis) ruthii*)
T -- Small whorled pogonia (*Isotria medeoloides*)
E -- Spreading avens (*Geum radiatum*)
E -- Spring Creek bladderpod (*Lesquerella perforata*)
E -- Tennessee purple coneflower (*Echinacea tennesseensis*)
E -- Tennessee yellow-eyed grass (*Xyris tennesseensis*)
T -- Virginia spiraea (*Spiraea virginiana*)

[1] Amber Darter and Conasauga Logperch [Federal Register Vol. 50, No. 150, p. 31597-31604 (August 5, 1985)]
[2] Braun's Rock-cress [Federal Register Vol. 69, No. 107, p. 31460-31496 (June 3, 2004)]
[3] Cumberland elktoe, Oyster mussel, Cumberlandian combshell, Purple bean, and Rough rabbitsfoot [Federal Register Vol. 69, No. 168, p. 53136-53180 (August 31, 2004)]

ATTACHMENT B – Revisions to 1200-4-3-.03(3)(g)

(revisions are shown in bold underline or bold strikeout)

Compound	Criterion Maximum Concentration ug/l (CMC)	Criterion Continuous Concentration ug/l (CCC)
Arsenic (III)*	340	150
Cadmium**	2.0	0.25
~~**Chromium, total**~~	---	~~**100**~~
Chromium, III**	**570**	**74**
Chromium, VI*	16	11
Copper**	13	9.0
Lead**	65	2.5
Mercury*	1.4	0.77
Nickel**	470	52
Selenium	20	5
Silver**	3.2	---
Zinc**	120	120
Cyanide***	22	5.2
Chlorine (TRC)	19	11
Pentachlorophenol****	19	15
Aldrin	3.0	---
g-BHC - Lindane	~~**2.0**~~ **0.95**	~~**0.08**~~ ---
Chlordane	2.4	0.0043
4-4'-DDT	1.1	0.001
Dieldrin	0.24	0.056
a-Endosulfan	0.22	0.056
b-Endosulfan	0.22	0.056
Endrin	0.086	0.036
Heptachlor	0.52	0.0038
Heptachlor epoxide	0.52	0.0038
PCBs, total ~~**each aroclor**~~	---	0.014
Toxaphene	0.73	0.0002
Tributyltin (TBT)	**0.46**	**0.072**

*** Criteria for these metals are expressed as dissolved.**

** Criteria for these metals are expressed as dissolved and are a function of total hardness….

*** If Standard Methods … used, this criterion may be applied as free cyanide.

**** Criteria for pentachlorophenol are expressed as a …

Hardness Dependent Variables (only new values shown)

Chemical	M_A	b_A	M_C	B_C	Freshwater Conversion Factors (CF)	
					CMC	CCC
Chromium III	**0.8190**	**3.7256**	**0.8190**	**0.6848**	**0.316**	**0.860**

ATTACHMENT C – July 16, 2004 Memorandum from Geoffrey H. Grubbs, Director Office of Science and Technology to the Water Management Division Directors, Region 1 - 10 Concerning National Consultations on Section 304(a) Recommended Criteria for Ammonia

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 16 2004

OFFICE OF
WATER

MEMORANDUM

Subject: National Consultations on Section 304(a) Recommended Criteria for Ammonia

From: Geoffrey H. Grubbs, Director
Office of Science and Technology

To: Water Management Division Directors, Regions 1-10

I would like to share with you the interagency memorandum (see attached) which describes several agreements relevant to the national aquatic life criteria consultation and criteria review process for ammonia, as well as the deferral of new and ongoing regional consultations on this pollutant pending completion of the national process.

In light of new information on mussel sensitivity to ammonia, EPA and the Services agreed to accelerate and consolidate the processes for conducting the national consultation on this pollutant and re-evaluating the 1999 Update of Ambient Water Quality Criteria for Ammonia. EPA and the Services have agreed to proceed jointly at the national level with concurrent consultation and review of EPA's ammonia criteria recommendations.

During the concurrent consultation and criteria review, I ask you to approve ammonia criteria that are consistent with the requirements of the Clean Water Act Section 303(c) subject to the results of the national consultation, invoking Section 7(d) of the ESA. Where EPA approves criteria adoption subject to the results of ESA consultation, EPA's record should contain its evaluation of the anticipated effects of the criteria on the species and the basis for the conclusion that there are not impacts of concern during the interim period until the consultation is completed. After conclusion of the national consultation, the EPA and Services' regional offices will determine whether any further consultation is needed at the regional level, and, if necessary, the regional consultation will proceed as soon as possible.

I encourage you to consider, as appropriate, other methods of minimizing impacts to listed species during the interim period. The Regional Review Teams should discuss strategies, other than through Section 7(a)(2) consultation, to avoid and minimize impacts such as issuance of NPDES permits or other Clean Water Act programs. The Regional Review Teams may also choose to include States or Tribes in these efforts.

I believe it is important that we conduct the national consultation on the current recommended criteria for ammonia to determine whether they should be revised based on the new toxicity data for aquatic organisms. To avoid duplication of effort, I ask you to defer new and ongoing regional consultations on ammonia pending the completion of the national process. If you have any questions or concerns, please do not hesitate to call Donna Davis, Branch Chief, Water Quality Standards Branch, Standards and Health Protection Division, at (202) 566-0381.

Attachment

cc: Ben Grumbles
Mike Shapiro
Greg Peck
Great Waterbody Program Directors
Regional Water Quality Standards Branch Chiefs and Coordinators
Denise Keehner
Donna Davis
Jim Keating
Linda Boornazian
Tom Laverty
Steve Neugeboren
Tod Siegel

MEMORANDUM

Subject: National Consultation on 304(a) Recommended Criteria for Ammonia

From: Clean Water Act and Endangered Species Act Memorandum of Agreement Oversight Panel

To: Director, Office of Science and Technology, Office of Water, EPA
Director, Fish and Wildlife Service
Director, National Marine Fisheries Service

The Oversight Panel, consisting of headquarters personnel from EPA (Office of Science and Technology, Office of Wastewater Management, and Office of General Counsel), Fish and Wildlife Service, and National Marine Fisheries Service, provides oversight and coordination for all aspects of the Clean Water Act and Endangered Species Act MOA. The Oversight Panel has discussed at length the national consultation and criteria review process for ammonia, and we have agreed, for the reasons described below, that new and ongoing regional consultations on this pollutant should be deferred pending completion of the national process.

In light of new information on mussel sensitivity to ammonia, EPA has decided to accelerate and consolidate the processes for conducting the national consultation on this pollutant and re-evaluating the 1999 Update of Ambient Water Quality Criteria for Ammonia (i.e., Clean Water Act 304(a) criteria recommendations). EPA and the Services have agreed to proceed jointly at the national level with concurrent consultation and review and, as necessary, revision of EPA's ammonia criteria recommendations. The criteria consultation and criteria revision process will each inform the other. If it appears that EPA needs to revise the 1999 criteria, or develop an adjustment methodology for mussels, the concurrent process would enable EPA to conclude consultation and issue new criteria (or a new site-specific methodology) in an expeditious manner.

We recommend that EPA regional offices notify states about this accelerated consultation and revision process in situations where the states are considering revising their ammonia criteria

based upon the 1999 Update, and where the waters affected by the revisions include endangered and threatened mussels. Given the time and resources that are involved in revising state water quality standards, it may be appropriate for a state or tribe currently considering revision of its ammonia criteria to await the conclusion of this process in order to avoid needless expenditure of state resources on multiple revisions of their standards.

EPA and the Services will form a technical evaluation team and begin ammonia consultation and review immediately. The process will include a data call in May 2004 closing in July 2004 to obtain all relevant data and information. The technical evaluation is expected to conclude no later than November 2004 with presentation of a set of options to a science and policy management team from EPA and the Services. It is anticipated that the technical evaluation, as well as the resulting products, will also undergo independent external (i.e., external to EPA and the Services) scientific/technical peer review, potentially including an external peer review of the underlying data and analysis. If the completed national consultation identifies any measures needed to comply with section 7(a)(2) of the Endangered Species Act, EPA will ensure the implementation of such measures consistent with its statutory authority, in cooperation with the Services and the states.

During this process of concurrent ammonia criteria consultation and review, EPA Regional Offices will continue to review and act upon submitted state water quality standards that include revised ammonia criteria. This accelerated national consultation will be important and relevant to any new or ongoing consultation on ammonia criteria; therefore, until the national consultation is completed, EPA Regions will approve ammonia criteria that are consistent with the requirements of Clean Water Act section 303(c) subject to the results of the national consultation. Under the 2001 Memorandum of Agreement between EPA, FWS and NOAA/NMFS regarding Enhanced Coordination under the CWA and ESA (66 FR 1102; February 22, 2001) ("MOA")[1], the national consultation will provide section 7 coverage for any state or tribal criteria approved by EPA that are identical to or more stringent than EPA's 304(a) criteria guidance. Where EPA Regions approve state criteria that are not identical to or more stringent than EPA's 304(a), the EPA and Services' regional offices will determine, after conclusion of the national consultation, whether any further consultation is needed at the regional level. This sequence will ensure that regional consultations benefit from the comprehensive consideration of scientific information undertaken nationally.

[1] The 2001 Memorandum of Agreement between EPA, FWS and NOAA/NMFS regarding Enhanced Coordination under the CWA and ESA (66 FR 11202; February 22, 2001) includes a commitment that EPA will conduct national consultations with the Services on EPA's section 304(a) water quality criteria recommendations for protection of aquatic life. The purpose of the national consultations is to provide section 7 coverage under the ESA for any state or tribal adopted criteria approved by EPA that provide a level of protection equal to or more stringent than that afforded by the 304(a) criteria. The national consultation procedure is intended to increase efficiency and consistency in consultations by conducting them on a one-time basis on a national level rather than repeatedly on a state-by-state basis. Furthermore, the national consultations will help determine if any EPA national recommended criteria need revision.

In any case where EPA approves criteria adoption subject to the results of ESA consultation, EPA's record should contain its evaluation of the anticipated effects of the criteria on the species and the basis for the conclusion that there are not impacts of concern during the interim period until the consultation is completed. This evaluation should include consideration of activities in the affected area, such as issuance of NPDES permits that may occur prior to completion of the consultation. Should the national consultation, or subsequent consultations at the regional level, indicate that new or revised standards are necessary to protect listed species, EPA will work with the State or authorized Tribe to obtain revisions to the standards under its CWA authority.

April 22, 2004

Denise Keehner
Director, Standards and Health Protection Division
Office of Science and Technology, Office of Water
U.S. Environmental Protection Agency

Date

April 22, 2004

Everett Wilson
Chief, Division of Environmental Quality
Fisheries and Habitat Conservation
U.S. Fish and Wildlife Service

Date

April 22, 2004

for Patrick Leonard
Chief, Division of Consultations, HCP's,
Recovery, and State Grants
Endangered Species
U.S. Fish and Wildlife Service

Date

April 23, 2004

for Laurie Allen
Director of Protected Resources
National Marine Fisheries Service

Date

ATTACHMENT D- Revisions to 1200-4-3-.03(4)(j)
(revisions are shown in bold underline or bold strikeout)

Compound	Water & Organisms Criteria (ug/L)	Organisms Only Criteria (ug/L)
INORGANICS		
Antimony	5.6	640
Arsenic (c)	10.0	10.0
Mercury	0.05	0.051
Nickel	610	4600
Thallium	~~1.7~~ 0.24	~~6.3~~ 0.47
Cyanide	~~700~~ 140	~~220000~~ 140
Dioxin **	0.000001	0.000001
VOLATILES		
Acrolein	190	290
Acrylonitrile (c)	0.51	2.5
Benzene (c)	22	510
Bromoform (c)	43	1400
Carbon tetrachloride (c)	2.3	16
Chlorobenzene	~~680~~ 130	~~21000~~ 1600
Chlorodibromomethane (c)	4.0	130
Chloroform (c)	57	4700
Dichlorobromomethane (c)	5.5	170
1,2-Dichloroethane (c)	3.8	370
1,1-Dichloroethylene ~~(c)~~	~~0.57~~ 330	~~32~~ 7100
1,2-Dichloropropane (c)	5.0	150
1,3-Dichloropropene (c)	~~10~~ 3.4	~~1700~~ 210
Ethylbenzene	~~3100~~ 530	~~29000~~ 2100
Methyl bromide	47	1500
Methylene chloride (c)	46	5900
1,1,2,2-Tetrachloroethane (c)	1.7	40
Tetrachloroethylene (c)	6.9	33
Toluene	~~6800~~ 1300	~~200000~~ 15000
1,2-Trans-Dichloroethylene	~~700~~ 140	~~140000~~ 10000
1,1,2-Trichloroethane (c)	5.9	160
Trichloroethylene (c)	25	300
Vinyl chloride (c)	~~20~~ 0.25	~~5300~~ 24
ACID EXTRACTABLES		
2-Chlorophenol	81	150
2,4-Dichlorophenol	77	290
2,4-Dimethylphenol	380	850
2-Methyl-4,6-dinitrophenol	13	280

2,4-Dinitrophenol	69	5300
Pentachlorophenol (c) (pH)	2.7	30
Phenol	21000	1700000
2,4,6-Trichlorophenol (c)	14	24
BASE NEUTRALS		
Acenaphthene	670	990
Anthracene	8300	40000
Benzidine (c)	0.00086	0.0020
Benzo(a)anthracene (c)	0.038	0.18
Benzo(a)pyrene (c)	0.038	0.18
Benzo(b)fluoranthene (c)	0.038	0.18
Benzo(k)fluoranthene (c)	0.038	0.18
Bis(2-Chlorethyl)ether (c)	0.30	5.3
Bis(2-Chloro-isopropyl)ether	1400	65000
Bis(2-Ethylhexyl)phthalate (c)	12	22
Butylbenzyl Phthalate	1500	1900
2-Chloronaphthalene	1000	1600
Chrysene (c)	0.038	0.18
Dibenz(a,h)Anthracene (c)	0.038	0.18
1,2-Dichlorobenzene	~~2700~~ 420	~~17000~~ 1300
1,3-Dichlorobenzene	320	960
1,4-Dichlorobenzene	~~400~~ 63	~~2600~~ 190
3,3-Dichlorobenzidine (c)	0.21	0.28
Diethyl phthalate	17000	44000
Dimethyl phthalate	270000	1100000
Di-n-butyl phthalate	2000	4500
2,4-Dinitrotoluene (c)	1.1	34
1,2-Diphenylhydrazine (c)	0.36	2.0
Fluoranthene	130	140
Fluorene	1100	5300
Hexachlorobenzene (c)	0.0028	0.0029
Hexachlorobutadiene (c)	4.4	180
Hexachlorocyclopentadiene	~~240~~ 40	~~17000~~ 1100
Hexachloroethane (c)	14	33
Ideno(1,2,3-cd)Pyrene (c)	0.038	0.18
Isophorone (c)	350	9600
Nitrobenzene	17	690
N-Nitrosodimethylamine (c)	0.0069	30
N-Nitrosodi-n-Propylamine (c)	0.05	5.1
N-Nitrosodiphenylamine (c)	33	60
Pyrene	830	4000
1,2,4-Trichlorobenzene	~~260~~ 35	~~940~~ 70

PESTICIDES		
Aldrin (c)	0.00049	0.00050
a-BHC (c)	0.026	0.049
b-BHC (c)	0.091	0.17
g-BHC - Lindane ~~(e)~~	~~0.19~~ 0.98	~~0.63~~ 1.8
Chlordane (c)	0.0080	0.0081
4-4'-DDT (c)	0.0022	0.0022
4,4'-DDE (c)	0.0022	0.0022
4,4'-DDD (c)	0.0031	0.0031
Dieldrin (c)	0.00052	0.00054
a-Endosulfan	62	89
b-Endosulfan	62	89
Endosulfan Sulfate	62	89
Endrin	~~0.76~~ 0.059	~~0.81~~ 0.06
Endrin Aldehyde	0.29	0.30
Heptachlor (c)	0.00079	0.00079
Heptachlor epoxide (c)	0.00039	0.00039
~~PCB aroclors (c) (EPA 119-125)~~	~~0.00064~~	~~0.00064~~
PCB, total (c)	0.00064	0.00064
Toxaphene (c)	0.0028	0.0028

Attachment E - Summary of Revisions Within Chapter 1200-4-4

Revisions to 1200-4-4-.01 through 1200-4-4-.13:

Basin Name / Stream Name	Description	Change Made	
		FROM	TO
1200-4-4-.04 Tennessee River Basin - Western Valley			
Hurricane Creek	Mile 0.0 to Origin	N/A	TS
1200-4-4-.08 Upper Tennessee River Basin			
Barrett Branch	Mile 0.0 to Origin	TS	NRTS
Service Branch	Mile 0.0 to Origin	TS	NRTS
McNabb Creek	Mile 0.0 to Origin	TS	NRTS
Laurel Branch of North River	Mile 0.0 to Origin	TS	NRTS
Service Tree Branch	Mile 0.0 to Origin	TS	NRTS
Panther Branch	Mile 0.0 to Origin	TS	NRTS
Mill Branch	Mile 0.0 to Origin	TS	NRTS
Flint Branch	Mile 0.0 to Origin	TS	NRTS
Crowder Branch	Mile 0.0 to Origin	TS	NRTS
Indian Valley Branch	Mile 0.0 to Origin	TS	NRTS
Panther Creek	Mile 0.0 to Origin	TS	NRTS
Mill Creek	Mile 0.0 to Origin	TS	NRTS
Rabbit Creek	Mile 0.0 to Origin	TS	NRTS
Hannah Branch	Mile 0.0 to Origin	TS	NRTS
Peckerwood Branch	Mile 0.0 to Origin	TS	NRTS
Bower Creek	Mile 0.0 to Origin	TS	NRTS
Ekanneetlee Branch	Mile 0.0 to Origin	TS	NRTS
Rowans Branch	Mile 0.0 to Origin	TS	NRTS
Shop Creek	Mile 0.0 to Origin	TS	NRTS
Tabcat Creek	Mile 0.0 to Origin	TS	NRTS
Bible Creek	Mile 0.0 to Origin	TS	NRTS
W.Prong Little R.	Mile 0.0 to Origin	TS	NRTS
Laurel Creek	Mile 0.0 to Origin	TS	NRTS
Meadow Br	Mile 0.0 to Origin	TS	NRTS
Spruce Flats Br	Mile 0.0 to Origin	TS	NRTS
Sams Creek	Mile 0.0 to Origin	TS	NRTS
Thunderhead Pr	Mile 0.0 to Origin	TS	NRTS
Shut-in Cr	Mile 0.0 to Origin	TS	NRTS
Lynn Camp Prong	Mile 0.0 to Origin	TS	NRTS
Marks Creek	Mile 0.0 to Origin	TS	NRTS
Meigs Creek	Mile 0.0 to Origin	TS	NRTS
Little Greenbriar Creek	Mile 0.0 to Origin	TS	NRTS

Mannis Branch	Mile 0.0 to Origin	TS	NRTS
Blanket Creek	Mile 0.0 to Origin	TS	NRTS
Shields Branch	Mile 0.0 to Origin	TS	NRTS
Jakes Creek	Mile 0.0 to Origin	TS	NRTS
Newt Prong	Mile 0.0 to Origin	TS	NRTS
Laurel Branch of Little River	Mile 0.0 to Origin	TS	NRTS
Fish Camp Prong	Mile 0.0 to Origin	TS	NRTS
Goshen Prong	Mile 0.0 to Origin	TS	NRTS
Silers Prong	Mile 0.0 to Origin	TS	NRTS
Rich Branch	Mile 0.0 to Origin	TS	NRTS
Rough Creek	Mile 0.0 to Origin	TS	NRTS
Meigs Post Prong	Mile 0.0 to Origin	TS	NRTS
Grouse Creek	Mile 0.0 to Origin	TS	NRTS
1200-4-4-.09 Clinch River Basin			
Coal Creek	At Clinch River (Mile 75.0); Mile 0.0 to Origin	N/A	TS
1200-4-4-.10 French Broad River Basin			
Twomile Creek	Mile 0.0 to Origin	TS	NRTS
Fighting Creek	Mile 0.0 to Origin	TS	NRTS
Sugarland Branch	Mile 0.0 to Origin	TS	NRTS
Big Branch	Mile 0.0 to Origin	TS	NRTS
Road Prong	Mile 0.0 to Origin	TS	NRTS
Cole Branch	Mile 0.0 to Origin	TS	NRTS
Alum Cave Creek	Mile 0.0 to Origin	TS	NRTS
Walker Camp Pr	Mile 0.0 to Origin	TS	NRTS
Dunn Creek	Mile 0.0 to Mile 15.8 ~~Origin~~	TS	TS
Dunn Creek	Mile 15.8 to Origin	N/A	NRTS
Mill Creek at South Indian Creek	Mile 0.0 to Origin	TS	NRTS
Tumbling Creek	Mile 0.0 to Origin	TS	NRTS
Sinking Creek	Mile 0.0 to 5.2	TS	NRTS
Indian Camp Creek	Mile 0.0 to Origin	TS	NRTS
Moss Camp Creek	Mile 0.0 to Origin	TS	NRTS
Deep Gap Creek	Mile 0.0 to Origin	TS	NRTS
1200-4-4-.11 Holston River Basin			
Watauga River	Mile 25.8 to 55.1 (N.C.-Tenn. Line)	TS	NRTS
Simerly Creek	Mile 0.0 to Origin	TS	NRTS
Shell Creek	Mile 0.0 to Origin	TS	NRTS
Cove Creek	Mile 0.0 to Origin	TS	NRTS

Attachment E - Summary of Revisions Within Chapter 1200-4-4

Buck Creek	At Doe River (Mile 20.9); Mile 0.0 to Origin	N/A	NRTS
Mill Creek at Roan Creek	Mile 0.0 to Origin	TS	NRTS
Big Dry Run Creek	Mile 0.0 to Origin	TS	NRTS
Big Creek	Mile 0.0 to Origin	TS	NRTS
Sulphur Springs Branch	Mile 0.0 to Origin	TS	NRTS
Stillhouse Branch	Mile 0.0 to Origin	TS	NRTS
Parks Branch	Mile 0.0 to Origin	TS	NRTS
Johnson Branch	Mile 0.0 to Origin	TS	NRTS
Dry Branch	Mile 0.0 to Origin	TS	NRTS
1200-4-4-.13 Upper Cumberland River Basin			
Smith Fork Creek	Mile 0.0 to Mile 3.0 ~~Origin~~	N/A	TS
Smith Fork Creek	Mile 3.0 to Origin	N/A	N/A
Barren Fork River	Mile 4.5 to Origin	N/A	TS

N/A means a specific designation of either TS or NRTS was not previously identified, or a specific designation is not currently identified.

Revisions to 1200-4-4-.14:

1200-4-4-.14 BARREN RIVER WATERSHED

STREAM	DESCRIPTION	DOM	IWS	FAL	REC	LWW	IRR	NAV	TS	NRTS
West Fork Drakes Creek	Mile 33.0 (stateline) to Origin			X	X	X	X			
Caney Fork Creek	Mile 0.0 to Origin			X	X	X	X			
Dry Fork Creek	Mile 0.0 to Origin			X	X	X	X			
Middle Fork Drakes Creek	Mile 22.2 (stateline) to Origin	X		X	X	X	X			
Sulphur Fork Creek	Mile 9.0 (stateline) to Origin			X	X	X	X			
Dutch Creek	Mile 0.0 to Origin			X	X	X	X			
Trammel Creek	Mile 30.7 (stateline) to Origin			X	X	X	X			
Little Trammel Creek	Mile 4.7 (stateline) to Origin			X	X	X	X			
Long Creek	Mile 14.6 (stateline) to Origin			X	X	X	X			
West Fork Long Creek	Mile 0.0 to Origin			X	X	X	X			
Puncheon Creek	Mile 4.3 (stateline) to Origin	X		X	X	X	X			
Unnamed Tributary (Adams Spring)	Mile 0.0 to Origin			X	X	X	X			
Little Puncheon Creek	Mile 0.0 to Origin			X	X	X	X			
Spring Creek	Mile 0.0 to Origin	X		X	X	X	X			
Salt Lick Creek	Mile 4.7 (stateline) to mile 6.8			X	X	X	X			
Salt Lick Creek	Mile 6.8 to mile 9.9			X	X	X	X		X	
Salt Lick Creek	Mile 9.9 to Origin			X	X	X	X			
Long Fork	Mile 4.5 (stateline) Origin			X	X	X	X			
White Oak Creek	Mile 4.1 (stateline) to Origin			X	X	X	X			
Long Hungry Creek	Mile 0.0 to Origin			X	X	X	X			
Line Creek	Mile 14.2 (stateline) to Origin			X	X	X	X			
Trace Creek	Mile 0.0 to Origin			X	X	X	X			
Little Trace Creek	Mile 0.0 to Origin			X	X	X	X			
All other surface waters named and unnamed, within the Barren River Basin, with the exception of wet weather conveyances, which have not been specifically noted shall be classified				X	X	X	X			